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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,267	03/31/2004	Jos Bastiaens	08CN8851-6	7478
23413	7590	09/24/2007		
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			EXAMINER ZEMEL, IRINA SOPHIA	
			ART UNIT 1711	PAPER NUMBER
			MAIL DATE 09/24/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/815,267	BASTIAENS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Irina S. Zemel	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 July 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,6-11,14-18,21-24,27-31,34-38,41-44,52 and 53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,6-11,14-18,21-24,27-31,34-38,41-44,52 and 53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3, 6, 7, 9-11, 14-18, 21-24, 27-28, 30-31, 34-38, 41-42, 44 and 52-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber in combination with Schmidt and US Patent 5,525,636 to Henn et al., (hereinafter "Henn").

The disclosure of Weber reference is discussed in detail in the previous office actions and such discussion is incorporated in their rejection by reference. Further, as reflected by the applicants in their response dated 1-12-2007,

The differences between the invention claimed in the broad claims of the instant application and the disclosure of the Weber reference is that the Weber reference does not expressly disclose the molecular weight of suitable polystyrenes and that the method of making the claimed product disclosed in Weber is different from the claimed method steps insofar as the blowing agent, in the process of Weber, is added via impregnation and the claimed step calls for melt blending the blowing agent. The molecular weight limitation has been addressed on several previous occasions. The examiner is still of the opinion that use of PS with the specified molecular weight would have been obvious for an ordinary artisan as quite common molecular weights for PS used in cellular PS, and also in view of Schmidt. In addition, the disclosure of Hann expressly teaches use of PS of molecular weights specifically corresponding to the

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claimed molecular weights and further expressly teaches benefits of using lower Mw (or Mn) PS in foam applications. See column 2, lines 47-59.

The process limitations claimed in some of the independent claims, once again it is emphasized that the claimed invention is drawn to a **product** not the process, even though the claims are drafted in the "product-by-process" format. As such, the patentability of the claimed product lies in the product itself, not the process step limitations. It has been previously discussed in several office actions, that since the claimed product is obtained from substantially the same materials, and, since the degree of impregnation (level of blowing agent in expandable product prior to expansion step) disclosed in Weber and exemplified in illustrative examples are similar, it is reasonable believed that the products claimed are substantially identical to the product of Weber absent showing factual evidence to the contrary. As such, they inherently exhibit the claimed properties. It is further noted that the sound level is claimed as "about 60", i.e., not claimed with any specified exactitude and, thus, is met by any sound level unless this property change leads to a material change in quality of the product. The comparative example # 3 is noted. However, the example does not provide any probative evidence of unexpected results due to the process steps, as it is not clear whether the composition used in this example is the same as in illustrative example, i.e., it appears that the composition of comparative example 3 lack the flame retardant and it is not even known what level of blowing agent is present in the composition prior to expansion (and what blowing agent it is). Moreover, it is well known in the art that the specific steps of blending blowing agents via different

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processes result in different properties of the final products, thus, it is not apparent that the alleged unexpected results are truly unexpected.

Addition of nucleating agent to a foamed composition is notoriously known in the art of foam for controlling of cell size and uniformity of the foam, and thus, would have been obvious for an ordinary artisan, as for example, supported by disclosure of Henn, expressly listing nucleating agents as known common additives for polystyrene foams. See column 4, line 16.

Thus, the invention as claimed is still considered to have been obvious for an ordinary artisan from the combined teachings of the cited prior art absent showing of unexpected results that can be clearly attributed to the claimed molecular weights of PS.

All other claimed limitations have been discussed in the previous office action and are either expressly or inherently met by the teachings of the cited references.

Claims 8, 29, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber in combination with Schmidt and Henn and further in view of Taubitz, '633 (of record).

The disclosure of Weber in combination with Schmidt and Henn is discussed above. Insofar as the claim limitation claiming specific flame retardant, Weber does not disclose the specifically claimed compounds. However, the claimed flame retardant are known in the art as flame retardant for the various polymeric compositions, and, as such, would have been an obvious choice of an ordinary artisan with reasonable

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expectation of success and known results. This position of the examiner is further supported by Taubitz disclosing functional equivalence of the flame retardant expressly disclosed by Weber with numerous phosphorous based flame retardan including those claimed in the instant application.

Claims 1, 3, 6, 7, 9-11, 14-18, 21-24, 27-28, 30-31, 34-38, 41-42, 44 and 52-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber in combination with Schmidt, Henn and further in combination with Green.

The rejection stands as per reason of record as previously discussed in several office actions. This is an alternative rejection of claims reciting the process steps for obtaining the claimed product and specific properties of the products, in view of processes disclosed in Green.

The disclosure of Weber in combination with Schmidt, Henn is discussed above. In the alternative, should the claimed product obtained by the claimed process steps be materially different from the product obtained by the process disclosed in Weber, obtaining the claimed product via the claimed steps would have been obvious in view of the disclosure of Green. As discussed in the previous office actions, it is notoriously known that polystyrene based expandable beads can be manufactured via dozens of different processed, from most common impregnation of bead with blowing agent, polymerizing styrene in the presence of the blowing agent, extrusion melt mixing polystyrene with the blowing agents to some exotic methods of forming such beads via exotic techniques involving costly machinery. See, for example, background of the Green reference (and the entire document as well). Each method is known for its

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advantages and choice of one of them that correspond to the claimed step would have been obvious for its known advantages, absent showing of unexpected results that can be clearly attributed to the claimed process steps. As discussed above, no clear and convincing evidence of unexpected results that can be attributed to the process step is presented on the record.

Claims 8, 29 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber in combination with Schmidt and Henn and further in view of Taubitz, '633 (of record), and further in combination with Green.

The rejection stands as per reason of record and discussions set forth above with regard to the process steps and specific flame retardants.

### ***Response to Arguments***

Applicant's arguments filed 7-24-2007 have been fully considered but they are not persuasive. The applicants arguments are directed to the fact that the references alone or in combination provide expectation of success because none of the cited references address a specifically claimed property of the claimed composition, i.e., "squeakiness" of the expanded material. This statement made by the applicants in their response has absolutely no legal merit. Simply because a references does not address, or silent with respect to a particular property does not mean that the claimed compositions in not obvious and the combined teachings of references does not make this composition or material quite obvious. The rejection based on combined teachings of Weber and

The applicants further argue that the flame retardant agent disclosed in Weber is structurally different from the flame retardant agent claimed in dependent claims (claims 8, 29, 43). This argument is addressed above in the body of the rejection.

The applicants further argue that the claimed invention requires specific process step for incorporating the blowing agent into the polymer mixture. While some of the independent claims do recite specific process steps of making the claimed product, it has been discussed in numerous previous office action, as well as above, that the process limitations are irrelevant to the patentability of the claimed product unless it is clearly shown that the product obtained by the claimed process is patentably distinct from the product of the prior art. Again, as discussed above, no convincing evidence to that effect are present on the record.

The applicants further argue that the combination of Weber with Schmidt and Henn is problematic as the secondary references disclose different compositions. The applicants, once again, is misinterpreting the teachings of the cited secondary references which are relied upon in the body of the rejection. The teachings relied upon are strictly directed to the properties of polystyrene and not the entire compositions, since it is the property of the PS that Weber reference is silent about.

Insofar as the applicants arguments with regard to unexpected results, this point is addressed above. The showing allegedly unexpected results is not considered probative or convincing for the reasons discussed above, and further in view of the fact that no amount of blowing agent is specified in any of the claims, thus raising a question on whether the results are commensurate in scope with the claimed invention that can



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have only a very minor amount of the blowing agent. But it is also very important to address the question on whether the allegedly unexpected results, even if, arguendo, are unexpected, outweigh the obviousness of the claimed blends, as the claimed blends are clearly obvious from the teachings of the cited references and the claimed properties is simply tantamount to finding another property of otherwise obvious composition.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571)272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Irina S. Zemel

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Primary Examiner  
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ISZ

A handwritten signature in black ink, appearing to read "M. J. Jensen", is written over the printed name of the Primary Examiner.